Stormwater Management
FOR EASTERN WASHINGTON

SUMMARY OF SUBCOMMITTEE MEETING

DATE: July 1, 2002 (revised July 15, 2002)

TO: Ross Dunfee, Steering Committee Chairman
Tony Barrett, Department of Ecology

COPY: Stormwater Manual Subcommittee Members and Consultant Team

FROM: Jim St. John, DEA and Dave Moss, Tt/KCM

SUBJECT: **Summary of Stormwater Manual Subcommittee Meeting**
Moses Lake Conference Center
June 27, 2002 9:00 am – 3:00 pm

PROJECT: EASTERN WASHINGTON STORMWATER MANAGEMENT
Stormwater Management Technical Manual *and*
Model Municipal NPDES Phase II Stormwater Program

Subcommittee Meeting Attendees:

Steve King – RH2 Engineering	Steve Hansen – City of Spokane
Jim St. John – David Evans and Associates	Steve Worley – Spokane County
John Heinley – WSDOT	Gary Nelson – Spokane County
Dave Moss – TetraTech/KCM	Gloria Mantz – Spokane County
Greg Lahti – WSDOT	Colleen Little – Spokane County
Nancy Aldrich – City of Richland	Khalid Marcus – Yakima County
Karen Dinicola – Ecology	Don Gatchalian – Yakima County
Mary Shaleen-Hansen – Ecology	Sandra Levey – Grant County PUD

PURPOSE OF MEETING:

This meeting was held to gather the core subcommittee members and at-large members for:

- Discuss Updated Production Schedule; Review Major Issue Summary; Document formatting
- Consider approval of Issue Paper 2 (Flow Control) and 4 (Water Quality Design Storms); discuss and comment on Issue Paper 3 (Drywells); discuss status of Issue Paper 5 (Infiltration Testing and Rates)
- Third review of Chapter 5 (Detention and Infiltration Design)
- Discuss Ecology's proposed revisions to Chapter 7 (Construction SW Pollution Prevention)
- Third review of Chapter 4 (Hydrologic Analysis and Design)
- Third review of Chapter 2 (Core Elements)

AGENDA FOR THIS MEETING:

1. Brief review of June 13 Meeting
2. Updated Schedule; Review status of Key Issues
3. Table of Contents and Glossary
4. Document formats for text and unresolved issues
5. Issue papers and redevelopment discussion
6. Review Chapter 5 – Detention and Infiltration Design
7. Working lunch (15 minute break)
8. Review Chapter 7 – Construction SW Pollution Prevention
9. Review Chapter 4 – Hydrologic Analysis and Design
10. Review Chapter 2 – Core Elements
11. Next meeting agenda; other pertinent topics

BRIEF SUMMARY OF PROCEEDINGS:

1. Review of Previous Minutes – Karen Dinicola had the following significant comments (see minutes revised on July 15):
   A. Issue Paper 2: Karen suggested for rural project exemption dispersed flow shouldn't reach stream.
   B. Issue Paper 3: This needs to be incorporated throughout manual – some in Chapter 2; some in Chapter 3.
   C. Chapter 6: Review peak flows for BMPs
      - Karen concerned about which time steps are used or average of peak time steps.
2. Table of Contents – brief review led by Dave Moss
   A. Add Table of Contents to each Chapter
3. Discussion of Format – review led by Dave Moss
   A. Example 1 has 6 votes from jurisdictions, Example 2 has 4 votes from jurisdiction but more people, and Example 3 has 1 vote.
   B. Example 1 – like wide margin, easier on computer. Example 2 – easier to read, harder to edit.
   C. Use Example 1 with bolder headings like Example 2.
   D. Use only 3 level numerical headings e.g. 6.4.1
4. Format for unresolved issues and selected topics – discussion led by Dave Moss
   A. Group likes heavy box style (suggested by Tony Barrett)
   B. Consultant to make preliminary list of issues

5. Status of UIC rule making – Mary Shaleen-Hansen

   A. Mary is setting up UIC committee – will begin meeting in August / September 2002

6. Issue Papers 2, 3, and 4 were reviewed and discussed. Following is a summary of the discussion as recalled by the notetaker – See Flip Chart notes

   A. There are three outstanding issues regarding Issue Paper #2 recommendations.

      - The first issue is whether the 2-year developed peak flow should be reduced to ½ of the existing peak flow. Karen said Ecology recommends this for at least the high quality streams to prevent degradation. By the time degradation is visible in stream erosion, degradation to the stream bed and morphology has already occurred. Steve W. pointed out via graph that Puget Sound basin didn't adopt this standard until streams were highly degraded and that Eastern Washington streams weren't degraded very much. Karen responded via graph that the degradation occurs quickly with development and Ecology doesn't want to repeat past practices when better knowledge about stream process is available.
      - There are remaining concerns regarding the size of projects allowed by the rural project exemption. Greg L. and Gary N. were selected to run some models to evaluate the appropriate flow exemption for this case.
      - There was discussion about why the upper limit of flow control was set at the 25-year storm. The local conveyance systems are designed to 2, 10 or 25 year storms. Storms greater than that cause localized flooding which is tolerated and preferred over greater expenditures for storm drainage.

   B. There is one outstanding issue regarding Issue Paper #3 and two other points that were discussed.

      - The first issue regards the susceptibility table and several people requested that all projects (including moderate and heavy loadings) with very low susceptibility be allowed to proceed without pretreatment. The very low susceptibility implies that the groundwater is protected. It was pointed out that there is a discrepancy between the table of recommendations and the text.
      - Ecology is reviewing local drywell standards and requests more standards if you haven't sent them in.
      - Mary will schedule the first UIC group meeting soon. Contact her if you are interested in being involved in the rulemaking.

   C. There are four major points that were discussed regarding Issue Paper #3.

      - Jim presented that the peak flow rate design storm has been modified based on committee feedback to the 6-month short duration design storm. This treats an equivalent number of storms (or more) as the volume based design. However protection of the BMP during larger peak flow needs to be considered unless the peak flow is routed around the BMP. It was suggested that limits be set for allowable velocity or a maximum shear stress.
      - Ecology requested more scientific documentation in the issue paper and less opinion, as well as a stronger tie between the discussion and recommendations. Design methods should be deleted from the recommendation.
      - There were concerns regarding the use of non-unit hydrographs and whether they could be converted to unit hydrographs, however there would be an extra rainfall conversion step.

- DEA is to request documentation from Mel regarding the change from a 6-hour short duration storm to a 3-hour short duration storm. Jim stated that Mel had told him, that there was not enough precipitation during the last three hours to calculate so the storm length was reduced after reviewing the hydrologic data.

D. Revise Issue Papers by next Thursday and submit to committee

7. Issue Paper 5
   A. Concern that new method is not ready for manual.
   B. Concern about presumed infiltration rates
   C. Jim Harakas to present at next meeting.
   D. This may be highlighted in manual or deferred until second draft.
8. Chapter 5 was reviewed – see attached list of comments on flip chart notes
9. Ecology's review of Chapter 7 was discussed
   A. Karen said that Jeff Killelea (Ecology) reviewed chapter 7 regarding the construction permit.
      - 1 – 5 acres may require modified SWPPP which may be performance based.
   B. Steve Worley clarified that permit applies to sites discharging to surface water. Karen cautioned that Ecology would be concerned about tracking mud offsite.
   C. C1.40: Dust Control – delete sentence about oil control.
      - Karen wanted to add statement to discourage over-watering, and that dust control water can't leave site.
   D. Erosivity waiver to be deleted from Manual for now – separate advisory committee rule making.
   E. Seed mixtures – review where they came from? Refer to local conservation districts for mixtures.
   F. Section 7.2.2.8 – Stabilize soils
      - Many concerns about this section and changing from "should" to "shall" and making requirements advisory. Current practice is to not cover due to minimal potential for rainfall/erosion.
   G. Steve Worley suggested photos of different types of streams – dry to wet to illustrate what type will have concerns.
   H. Karen said draft model ordinance of erosion and sediment control by AGC being presented for building codes. This has proposed requirements for Eastern WA.
   I. Several said they would rather have sediment traps and ponds than provide cover.
   J. Karen requested feed back on shall vs. should throughout chapter and why change.
10. Chapter 4 was reviewed. See attached comments on flip charts.
    A. Steve Worley suggested separating flow types for discharge to surface water – use long duration winter storm. For discharge to drywells and infiltration – use any approved local method.
    B. Jim St. John to send out Tony Barrett's snowmelt water quality paper.

11. Discussed "existing" vs. "historical" land use and condition for flow control design.
    A. Where should flow control be provided? Karen said small streams on east slope of Cascades and Palouse region are examples of streams that are critical to protect with best current standards.
    B. Committee desires current condition as "existing" land use.
        - Variability throughout Eastern Washington; use less restrictive standards than Western Washington for now.
        - There are some areas where more restrictive Curve Numbers may be appropriate for local jurisdictions to apply.
    C. Add statements about doing basin studies and more analysis for discharges to sensitive streams.
12. Redevelopment discussion from Chapter 2
    A. Steve Hansen requested that rather than treat strip roadway widening improvements add process for equivalent area.
    B. Steve H. requests increase threshold to 10,000-sq. ft. PGIS for all redevelopment projects.
    C. Steve H. to help Greg Lahti and Karen refine redevelopment requirements with Dave Moss.

PRELIMINARY AGENDA FOR NEXT MEETING:

The **next meeting** will be at the Moses Lake Conference Center on **July 11, 2002**, from 9am to 3:00pm. The agenda will include:

- Review of Subcommittee agenda and summary from 6/13 meeting
- Review latest schedule and status of major issues
- Final Review and Approval on Issue Papers #2, #3 and #4
- Review status of Issue Paper # 5
- Discussion/Decision on Redevelopment
- Review of Chapter 2: Core Elements for New Development and Redevelopment
- Working lunch break (15 minutes) – *bring your own if you wish*
- Review updates in Chapter 4, 5, 7 and sections of other chapters
- Highlight of Unresolved Issues and Key Issues for Public Review Draft
- Schedule for Public meetings and Next Meeting
- Adjourn

The following notes are from the flip charts (created at the meeting) from participant comments:

Issue Paper #2 – Flow Control

- 2-year / 25-year vs. ½ of 2-year / 25-year?
- Define "disturbed" acreage
- Greg L and Gary N to determine how rural project exemption flows "apply"
- Why is upper limit for flow control 25 years?
  - Tolerance for flooding
  - Conveyance systems are only designed for 5, 10, or 25 year
- Ecology will have further comments; concerned about stream erosion, particularly from cumulative events

Issue Paper #3 - Drywells

- If susceptibility is very low – why is treatment still required for moderate and heavy pollutant loadings?
  - There is a discrepancy between table 4 and text
- Ecology suggested treatment required for industrial sites only
- Mary to send out summary of drywell treatment in other states
- Ecology requests more drywell standard Details – send to Tony and Doug
- Approve Issue Paper next meeting
- UIC group forming – Mary will schedule 1st meeting soon

Issue Paper #4 – Design Storm

- Need to add infiltration rates for Option (3)
- Add to discussion section to justify 25 year high flow design
- Velocity or shear stress. Shall be checked to prevent erosion
- Ecology feels Issue Paper text which is not verifiable should be removed
- Remove allowable methods for peak flow based design from Issue Paper
- Address hyetographs that are >1.0 (will the results be the same if >1.0?)
- MGS to provide documentation for reducing 6 hour duration to 3 hour duration (also edit document to make duration consistent)

Issue Paper #5 - Infiltration

- Request that Jim Harakas attend next meeting to update his proposal
- Not ready to incorporate new method. (Suggest it be considered / proposed; maybe add later)
- Presumptive infiltration rates table – portion (or all) of this may not be ready for inclusion in draft manual
- Need details on current testing method to go in manual

Chapter 5 – Detention and Infiltration Design

- Add O & M for infiltration – verify text matches figures
- Update Section 5.3.3 for I.P. #3 edits
- I.P. #3: Chapter 2 – condensed version, Chapter 5 – long version
- 5.3.4: Input from I.P. #5 (Jim H.)
- 5.3.5: Revise Emergency overflow to 25 year event
- Update Figure 5.3.15
- 5.3.6: Drywell depth – update to match figure
- 5.3.7: Need infiltration basin figure, define maximum bottom slope
- Add underground pipe infiltration system – Steve King to provide info
- 5.4: Change to Spokane Co. current text, with 2-year water budget, disallow infiltration
- Correct figure cross-references in each figure
- 5.2: Detention pond setback dimensions – correct cross-reference in text
- Delete paragraph discouraging galvanizing on pg 5-12. It conflicts with details
- Some concern about 0.5 inch minimum orifice as this may be too small. Leave as is and local jurisdictions can modify.
- Detention ponds – if no 2-year outlet allowed, need to store 2-year design storm in dead storage

Chapter 7 – Construction Stormwater Pollution Prevention

- Delete regulatory sections; focus regulatory text to Chapter 1
- Don't disallow all oil for dust control; some types are approved
- Discourage excess use of water in dust control, which creates runoff
- Delete erosivity waiver section; just note it is being developed by Ecology
- Remember – project needs to discharge to surface water body to be applicable
- Add pictures of stream types
- AGC – new draft model ordinance for ESC
- 7.2.2.8 – Element #5 – modify to consider that (quite often) exposed soil has low vulnerability to erosion. Consider focus on other preventive BMPs
- Review "shoulds" vs. "shalls"

Chapter 4 - Hydrologic Analysis & Design

- Ecology will consider proposals for use of approaches not in the manual
- SCS Type II and 6 month 72 hour design storms
- Clarify level pool routing wording – SBUH vs. SCS
- Add Preface Section – Hyd. Analysis for water quality treatment. Hyd. Analysis for flow control
  - Explain in preface of Section 4.2.6 which water quality designs use which method
- Which methods ok for volume? Flow rate?
- "Historical" or "Existing" conditions for curve numbers – Committee selects existing. Ecology to review decision.

Chapter 2 – Core Elements

- Suggest 10,000 sq ft PGIS for redevelopment